WHAT IS CLAIMED IS:

1   1.   A broadband network comprising:

2   a hybrid fiber coax (HFC) network having network elements operable

3   for communicating telephony, data, and video signals with customer-premises

4   equipment of a subscriber; and

5   an HFC network manager for monitoring status of the network

6   elements and the customer-premises equipment, for controlling configuration of the

7   network elements and the customer-premises equipment, and for monitoring the

8   configuration of the network elements and the customer-premises equipment.

1   2.   The broadband network of claim 1 further comprising:

2   a database operable with the HFC network manager for storing data

3   indicative of the configuration of the network elements and the customer-premises

4   equipment, and for storing data indicative of assigned capacity of the network

5   elements.

1   3.   The broadband network of claim 2 further comprising:

2   an online provisioning application link (OPAL) operable with the HFC

3   network manager and the database for provisioning network elements with the

4   customer-premises equipment of the subscriber based on the assigned capacity of the

5   network elements in order to enable communication of telephony, data, and video

6   signals between the HFC network and the customer-premises equipment of the

7   subscriber.

1   4.   The broadband network of claim 2 further comprising:

2   a fault manager having an alarm visualization tool operable with the

3   HFC network manager and the database for generating visual displays of the status

4   and configuration of the network elements and the customer-premises equipment of

5   the subscriber.

1   5.   The broadband network of claim 4 further comprising:

2   a trouble ticket system operable with at least one of the HFC network

3 manager and the fault manager for generating trouble ticket alerts in response to

4 improper status of at least one of the network elements and the customer-premises

5 equipment.

1   6. The broadband network of claim 5 wherein:

2   the HFC network manager updates the improper status of the at least

3 one of the network elements and the customer-premises equipment to a proper status

4 after the trouble ticket alert has been addressed.

1   7. The broadband network of claim 4 further comprising:

2   a trouble ticket system operable with at least one of the HFC network

3 manager and the fault manager for generating trouble ticket alerts in response to

4 improper configuration of at least one of the network elements and the customer-

5 premises equipment.

1   8. The broadband network of claim 7 wherein:

2   the HFC network manager updates the improper configuration of the

3 at least one of the network elements and the customer-premises equipment to a

4 proper configuration after the trouble ticket alert has been addressed.

1   9. The broadband network of claim 1 wherein:

2   the network elements include a host digital terminal (HDT) for

3 communicating the telephony signals, a cable modem termination system (CMTS)

4 for communicating the data signals, and video equipment for communicating the

5 video signals.

1   10. The broadband network of claim 9 wherein:

2   the network elements further include a fiber optics node connected at

3 one end to the HDT, the CMTS, and the video equipment by a fiber optics network

4 and connected at the other end to the customer-premises equipment by coax.

1   11. The broadband network of claim 3 further comprising:

2   an order manager operable with the OPAL for monitoring the

3 provisioning of HFC network elements with customer-premises equipment by OPAL.

1   12. The broadband network of claim 1 wherein:

2   the HFC network manager uses a rules-based system for monitoring

3 the status and configuration of the network elements and the customer-premises

4 equipment.

1   13. The broadband network of claim 2 wherein:

2   the database is a service, design, and inventory (SDI) database and

3 further stores data indicative of physical and logical connections between the HFC

4 network and the customer-premises equipment of subscribers.

1   14. The broadband network of claim 3 wherein:

2   the OPAL provisions the network elements with customer-premises

3 equipment such that the network elements and the customer-premises equipment are

4 logically connected.

1   15. In a broadband network having a hybrid fiber coax (HFC)

2 network provided with network elements operable for communicating telephony,

3 data, and video signals with customer-premises equipment, a network management

4 system for managing the HFC network, the HFC network management system

5 comprising:

6   an HFC network manager for monitoring status of the network

7 elements and the customer-premises equipment, for controlling configuration of the

8 network elements and the customer-premises equipment, and for monitoring the

9 configuration of the network elements and the customer-premises equipment.

1   16. The HFC network management system of claim 15 further

2 comprising:

3   a database operable with the HFC network manager for storing data

4 indicative of the configuration of the network elements and the customer-premises

5   equipment, and for storing data indicative of assigned capacity of the network

6   elements.

1   17.   The HFC network management system of claim 16 further

2   comprising:

3   an online provisioning application link (OPAL) operable with the HFC

4   network manager and the database for provisioning network elements with customer-

5   premises equipment based on the assigned capacity of the network elements in order

6   to enable communication of telephony, data, and video signals between the HFC

7   network and the customer-premises equipment.

1   18.   The HFC network management system of claim 16 further

2   comprising:

3   a fault manager having an alarm visualization tool operable with the

4   HFC network manager and the database for generating visual displays of the status

5   and configuration of the network elements and the customer-premises equipment.

1   19.   The HFC network management system of claim 18 further

2   comprising:

3   a trouble ticket system operable with at least one of the HFC network

4   manager and the fault manager for generating trouble ticket alerts in response to

5   improper status of at least one of the network elements and the customer-premises

6   equipment.

1   20.   The HFC network management system of claim 19 wherein:

2   the HFC network manager updates the improper status of the at least

3   one of the network elements and the customer-premises equipment to a proper status

4   after the trouble ticket alert has been addressed.

1   21.   The HFC network management system of claim 18 further

2   comprising:

3   a trouble ticket system operable with at least one of the HFC network

4   manager and the fault manager for generating trouble ticket alerts in response to

5   improper configuration of at least one of the network elements and the customer-

6   premises equipment.

1   22.   The HFC network management system of claim 21 wherein:

2   the HFC network manager updates the improper configuration of the

3   at least one of the network elements and the customer-premises equipment to a

4   proper configuration after the trouble ticket alert has been addressed.

1   23.   The HFC network management system of claim 15 wherein:

2   the network elements include a host digital terminal (HDT) for

3   communicating the telephony signals, a cable modem termination system (CMTS)

4   for communicating the data signals, and video equipment for communicating the

5   video signals.

1   24.   The HFC network management system of claim 23 wherein:

2   the network elements further include a fiber optics node connected at

3   one end to the HDT, the CMTS, and the video equipment by a fiber optics network

4   and connected at the other end to the customer-premises equipment by coax.

1   25.   The HFC network management system of claim 17 further

2   comprising:

3   an order manager operable with the OPAL for monitoring the

4   provisioning of HFC network elements with customer-premises equipment by OPAL.

1   26.   The HFC network management system of claim 16 wherein:

2   the database is a service, design, and inventory (SDI) database and

3   further stores data indicative of physical and logical connections between the HFC

4   network and the customer-premises equipment of subscribers.

1   27.   The HFC network management system of claim 17 wherein:

2   the OPAL provisions the network elements with customer-premises

3   equipment such that the network elements and the customer-premises equipment are

4   logically connected.

1   28.   In a broadband network having a hybrid fiber coax (HFC)
2 network provided with network elements operable for communicating telephony,
3 data, and video signals with customer-premises equipment of a subscriber, a network
4 management method for managing the HFC network, the HFC network management
5 method comprising:
6   monitoring status of the network elements and the customer-premises
7 equipment;
8   monitoring the configuration of the network elements and the
9 customer-premises equipment;
10   storing data indicative of the configuration of the network elements
11 and the customer-premises equipment;
12   storing data indicative of assigned capacity of the network elements;
13   provisioning network elements with the customer-premises equipment
14 of the subscriber by controlling the configuration of the network elements and the
15 customer-premises equipment based on the data indicative of the assigned capacity
16 of the network elements in order to enable communication of telephony, data, and
17 video signals between the HFC network and the customer-premises equipment of a
18 subscriber; and
19   generating visual displays of the status and configuration of the
20 network elements and the customer-premises equipment of the subscriber based on
21 the monitored status of the network elements and the customer-premises equipment
22 and the data indicative of the configuration of the network elements and the
23 customer-premises equipment.

1   29.   The HFC network management system of claim 28 further
2 comprising:
3   generating trouble ticket alerts in response to improper status of at
4 least one of the network elements and the customer-premises equipment.

1   30.   The HFC network management system of claim 28 further
2 comprising:

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3   generating trouble ticket alerts in response to improper configuration

4   of at least one of the network elements and the customer-premises equipment.